

ABSTRACT OF THE DISCLOSURE

A system for measuring internal body cavities of a patient includes an interferometer having a reference leg and a patient leg that is inserted in the patient. The patient leg directs a beam of coherent light within a body cavity of the patient. Light
5 exiting the patient leg is reflected by a tissue wall and is received by the patient leg where it is combined with light that is reflected through the reference leg. The light in the reference leg and patient leg combines to create fringes indicative of a difference in the optical path length between the two legs. A processor computes the dimensions of the body cavity from the difference in optical path length between the patient leg and the
10 reference leg.